

AMENDMENTS TO THE CLAIMS:

Please enter the following claims:

1. (Currently amended) A liquid crystal display device comprising:
a first substrate;
a second substrate arranged facing the first substrate with a pre-set gap in-between the first and second substrates;
liquid crystals held in said gap;
means for applying an electrical field to said liquid crystals to change the state of orientation thereof;
a wall structure formed in each of a plurality of small-sized areas obtained on sub-division along the first substrate for orienting the liquid crystals lying in each small-sized area axially symmetrically on application of said electrical field, said wall structure ~~encompassing~~ encircling a rectangular area of the first substrate, said rectangular area forming a concave structure; and
a groove structure formed within said concave structure in each of said small-sized areas in said first substrate and adapted for adjusting the axial symmetrical orientation of said liquid crystals in cooperation with said wall structure,
wherein said groove structure extends along diagonal lines of said rectangular area encircled by said wall structure, wherein the liquid crystals in each small-sized area are divided into four groups and are oriented symmetrically with respect to an axis perpendicular to a point of intersection of said two diagonals lines.

2. (Cancelled).

3. (Cancelled).

4. (Previously Presented) The liquid crystal display device according to claim 1 wherein said first substrate is a transparent plate and a color filter layer, a transparent insulating layer and a transparent electrically conductive layer are formed on one surface thereof;

said groove structure being formed by patterning at least one of said color filter layer, transparent insulating layer and the transparent electrically conductive layer.

5. (Currently Amended) The liquid crystal display device according to claim 1 wherein said first substrate includes an electrode as means for applying an electronic field to said first substrate; and

wherein said groove structure is formed in an insulating layer formed in said electrode itself or in an insulating film arranged on a reverse surface or a front surface of said electrode.

6. (Original) The liquid display device according to claim 1 wherein said liquid crystals are of negative dielectric constant anisotropy and

wherein the surfaces of said two substrates are processed for orientation for orienting said liquid crystals perpendicularly in the absence of applied voltage.

7. (Original) The liquid crystal display device according to claim 1 wherein a photo-polymerizable resin is added to said liquid crystals for stabilizing the state of axially symmetrical orientation produced on application of an electrical field.

8. (Previously Presented) The liquid crystal display device according to claim 1 wherein the axially symmetrical orientation of said liquid crystals is distorted along a central axis and display is performed by exploiting TN mode liquid crystals, which utilizes optical rotating characteristics.

9. (Original) The liquid crystal display device according to claim 8 wherein a chiral substance is added to said liquid crystals for distorting the state of orientation thereof.

10. (Previously Presented) The liquid crystal display device according to claim 1 wherein the axially symmetrical orientation of said liquid crystals is not distorted along a central axis and display is performed by exploiting ECB mode liquid crystals, which utilizes birefringence.

11. (Original) The liquid crystal display device according to claim 1 wherein said means for applying the electrical field is made up of signal electrodes formed in columns on

one substrate and discharge channels formed in rows in the other substrate, said discharge channel being separated from said liquid crystals by a dielectric sheet.

12. (Currently amended) The liquid crystal display device according to claim 1 wherein said means for applying the electrical field comprises an electrode formed on each of the substrates, wherein the electrodes are facing each other with said liquid crystals in-between.

13. (Cancelled).